

Health Update:

Update 1: Mumps Outbreak in the Midwest

April 7, 2006

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The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

Office of the Director
912 Wildwood
P.O. Box 570
Jefferson City, MO 65102
Telephone: (800) 392-0272
Fax: (573) 751-6041
Web site: <http://www.dhss.mo.gov>

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**FROM: JULIA M. ECKSTEIN
DIRECTOR**

SUBJECT: Update 1: Mumps Outbreak in the Midwest

This is an update to the April 6, 2006, Missouri Department of Health and Senior Services (DHSS) Health Alert entitled "Mumps Outbreak in the Midwest."
(http://www.dhss.mo.gov/BT_Response/HAMumps4-6-06.pdf)

There is an increased risk for mumps in Missouri related to a large outbreak of the disease in Iowa (365 probable, confirmed, and suspect cases since the beginning of the year), and additional reports of cases in Nebraska, Kansas, Minnesota, Wisconsin, Illinois, and Indiana. Of the cases reported in Iowa, a substantial proportion are in the 17-25 year-old age range. In addition, of those patients whose vaccine history is known, a substantial proportion had documentation of receiving two doses of a mumps-containing vaccine.

Mumps is a viral illness with an incubation period that ranges from 12-25 days, and is usually 16-18 days. Persons with mumps are generally considered infectious from 3 days before until 4 days after onset of parotitis. As many as 20 percent of cases are asymptomatic, and 40-50 percent may have only nonspecific or primarily respiratory symptoms.

A March 30, 2006, *MMWR Dispatch* reported that among the 114 Iowa patients for whom information on symptoms was available, the most common symptoms were parotitis in 94 (83%) patients, submaxillary/sublingual gland swelling in 46 (40%), fever in 41 (36%), and sore throat in 36 (32%). The average duration of illness was 5.1 days. Six (5%) patients reported complications (e.g., orchitis); one suspected case of encephalitis was being investigated.

There is no specific treatment for mumps. An individual who has had mumps has lifelong immunity against the disease. Mumps can be prevented through vaccination. Two doses of mumps vaccine, given as combination MMR vaccine and separated by at least four weeks, are routinely recommended for all children. The first dose should be given on or after the first birthday; the second is routinely given at 4-6 years of age.

The April 6, 2006, Health Alert should be consulted for recommendations on reporting of suspected or confirmed mumps cases, use of mumps vaccine, and mumps infection control measures (including recommended measures to protect health-care workers from infection in the current situation of increased risk). Questions on these topics – as well as questions on laboratory testing, specimen collection, and submission – can be directed to your local public health agency (LPHA), or to DHSS at 573-751-6133, 866-628-9891, or 800-392-0272.

This Health Update will provide additional information on infection control, and on laboratory testing of specimens from patients suspected of having mumps. Additional information on testing from the Missouri State Public Health Laboratory (MSPHL) is available at www.dhss.mo.gov/Lab/mumps.pdf.

Infection Control

If an individual who has been exposed to a mumps case, or who is having symptoms compatible with mumps, presents to a health care facility, he or she should not have contact with other patients (e.g., in a waiting room), and a mask should be placed on the individual. A minimum number of staff should have contact with the patient, and Droplet (along with Standard) Precautions should be used. Patients should be encouraged to call before presenting to a health care facility if they have symptoms of an infectious disease.

To help prevent the spread of mumps, anyone who has the disease should not return to child care, school, or work until 9 days after symptoms began, or until they are well, whichever is longer.

Indications for Mumps Testing:

Patients presenting with salivary gland swelling (and/or testicular swelling/pain in males) without other apparent cause should be tested for mumps if the disease is suspected. Note that parotitis may be unilateral or bilateral, and any combination of single or multiple salivary glands may be affected. Parotitis may first be noted as earache and tenderness on palpation of the angle of the jaw.

Prodromal symptoms in persons with mumps can include low-grade fever, myalgia, anorexia, malaise, and headache. In addition, 40-50 percent of individuals infected with mumps virus may have only nonspecific or primarily respiratory symptoms. Patients who present with such symptoms, but without evidence of parotitis or orchitis, might be considered for mumps testing if they had been exposed to a known or suspect case of mumps within 25 days of symptom onset.

The fact that a substantial proportion of the Iowa mumps cases had a past history of vaccination and still developed mumps indicates that the disease should not be ruled out in a previously vaccinated patient who presents with a suggestive clinical picture.

Prior to requesting testing, physicians should obtain a clinical history that includes the date of onset of symptoms and vaccination dates.

Obtaining Mumps Testing

Medical providers should normally use private laboratories for testing. (MSPHL is a reference laboratory and should generally not be used to diagnose individual cases of mumps.) Appropriate specimens should be sent for both serological testing and virus isolation according to criteria specified by the particular laboratory.

Specimen Collection

The following is general guidance on specimen collection.

Serological testing: Sera should be collected as soon as possible after symptom onset for IgM testing and/or as the acute specimen for possible seroconversion. If paired sera are requested, the convalescent sera should be drawn 2 weeks later. If the suspected case has received one or more doses of a vaccine (such as MMR) containing mumps antigen, the IgM response may be missing, delayed, or transient.

Virus isolation: Mumps virus may be detected in appropriate specimens from 7 days before, and until 5-9 days after, the onset of parotitis. Particularly among previously immunized persons, mumps virus detection is an important method of confirming the case. Specimens for isolation of mumps virus include oral/buccal swabs, oro- or naso-pharyngeal swabs, and urine (i.e., 2-5mL of clean-voided, midstream urine).

In general, the procedure for obtaining an oral/buccal swab specimen is the following: Collect fluid by swabbing the buccal cavity (the space between the cheek and teeth). The parotid duct drains in this space near the upper molars.

- b. Massage the parotid gland area just in front of the ear and near the angle of the jaw for 30 seconds prior to collecting secretions on the swab.
- c. Swab the area between the cheek and gum by sweeping the swab near the upper molar to the lower molar area.
- d. Place the swab in viral transport medium and leave the swab in the medium.

If you have questions about mumps, please contact your LPHA, or DHSS at 573-751-6133, 866-628-9891, or 800-392-0272.

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